Research Journal of Pharmaceutical, Biological and Chemical Sciences, 2015, vol.6, N6, pages 1617-1623

Research of the act-protective properties of xymedon and its new analogs

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Abstract

This paper deals with the effects of the medicinal agent xymedon and its six new two-fragment analogs containing fragments of xymedon and biogenic acids, in the stimulation of rats' physical performance in the test of forced swimming with weights. It was noted that single and multiple injection (for 21 day) of the tested substances did not have any statistically significant act-protective effect. The most pronounced effect was observed for act-protective L-ascorbate compound 1-(2-hydroxyethyl) -4.6-dimethyl-1.2-dihydropyrimidine-2-one (20 mg/kg) in the 11-day intraperitoneal injection. The effect of the swimming time stimulation for rats, on day 14 of the experiment, was 440% higher relative to the control group. Compound is a conjugate, comprising the fragments of xymedon and ascorbic acid. With the injection of the compound for 11 days, in a debilitating physical exertion conditions, no influence on the processes of leucopoiesis was noticed. Increase in the number of erythrocytes and hemoglobin level in blood indicate the stimulation of erythropoiesis. Revealed biochemical signs indicating improvement in the exercise tolerance upon the injection of the substance to animals and its anti-catabolic action. The absence of cardio- and hepatotoxic action of the substance was disclosed.

Keywords

Act-protection, Environmental pharmacology, Generalized linear models, Pyrimidine derivatives, Xymedon